393. VEHICLE FENDERS.

34

ENGLISH 20,752 of 1899

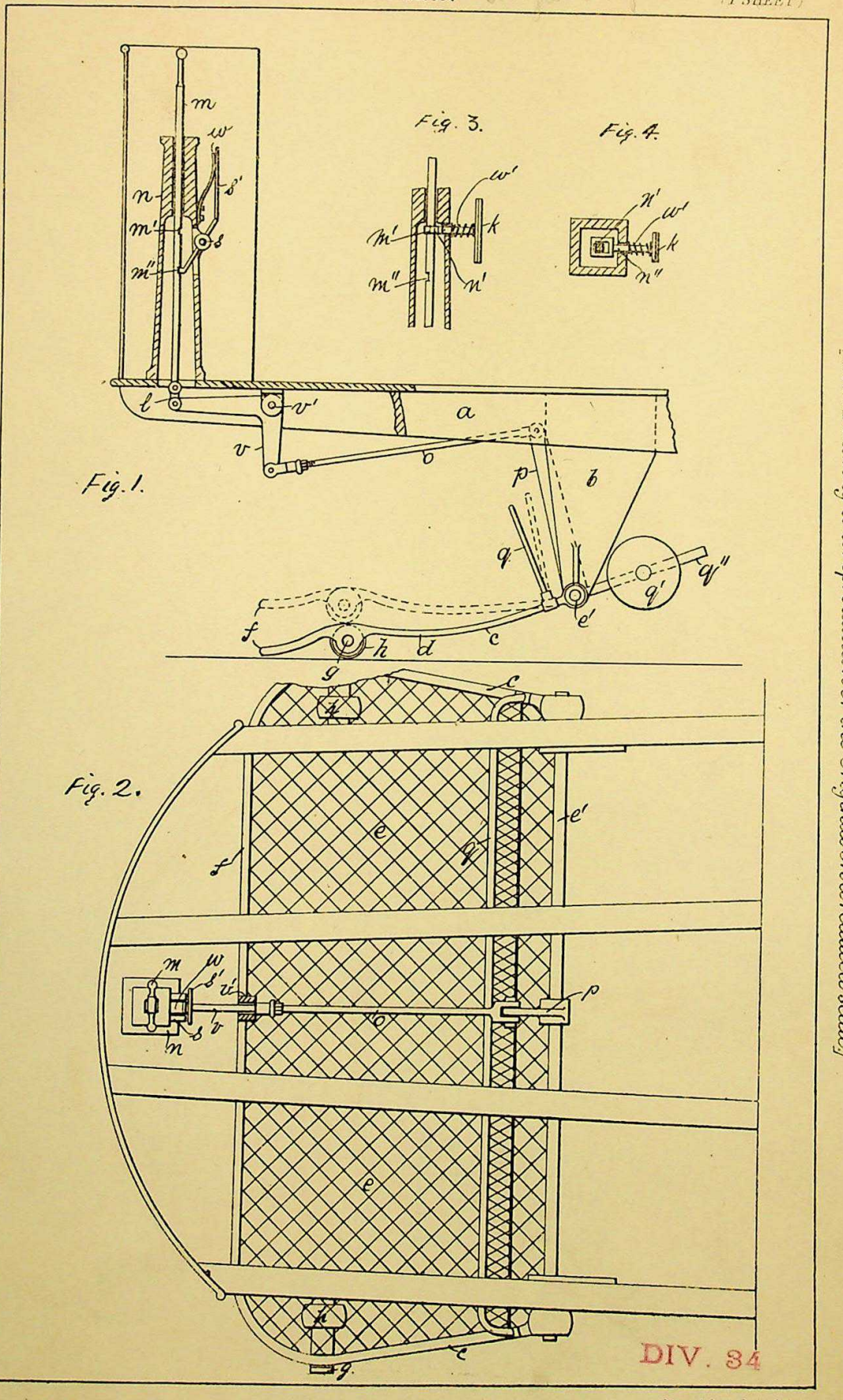
10/1899

A.D. 1899. Oct. 17. N° 20,752.

WILSON & *another's* COMPLETE SPECIFICATION.

Fender
Hinged Roof

(1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale.]

DIV. 34

Malby & Sons, Photo-Litho

Fender
Hand Rail
34

N° 20,752 A.D. 1899

Date of Application, 17th Oct., 1899

Complete Specification Left, 17th July, 1900—Accepted, 22nd Sept., 1900

DUPLICATE

PROVISIONAL SPECIFICATION.

Improvements in or in connection with Life Saving Guards for Tramcars and like Vehicles.

We, WILLIAM WILSON, of 30, Norfolk Street, Hyde, in the County of Chester, Pattern Maker, and THOMAS BENNETT, of 76, Grafton Street, Hyde, in the County of Chester, Pattern Maker, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in or in connection with life saving guards for tramcars and like vehicles, the object being to provide a guard of a more efficient character than those hitherto in use, and one which may be readily lowered to or raised from its operative position.

As applied to a tramcar we pivot to the front frame of the car, or to the lower ends of brackets affixed thereto, a guard or tray consisting of a frame to which is attached netting of a suitable character. This frame is sufficiently large and is round at its front edge or may have a roller extending along it from side to side or, one or more small rollers, so that if such front edge is brought into contact with the road or rails, it would readily pass over any obstruction. To the sides of the frame at suitable positions we couple the lower ends of two rods, the upper ends of which are, in turn, coupled to levers fixed on a shaft journalled to the car frame and on this shaft is another lever to which is coupled a lever or handle which extends upwardly, such handle being so arranged that it can be quickly lifted up or let down by the car driver so as to raise the guard or tray to any height required or to drop it down so that it may nearly touch the tram road or rails. One or two of the small rollers referred to, or others fixed in special positions for the purpose, may come in contact with and run on the rails keeping the front edge of the guard just clear of the roadway. The bearings of these rollers or the rods referred to may be adjustable to accommodate the guard to any particular roadway. The operating handle may be held in any position required by hooks or brackets, notched bars or the like and may also be provided with a spring catch to engage with the notches, such spring catch being operated by a duck-bill handle or similar device.

The guard is very simple and may be held normally in its operative position or let down to such on emergency and in any case is large enough to receive the body of a man who may be in front of the car when the latter is running.

Dated this 16th day of October 1899.

WILLIAM H. TAYLOR,
Stephens Buildings, 62, Market Street, Manchester.

[*Price 8d.*]

COMPLETE SPECIFICATION.

Improvements in or in connection with Life Saving Guards for Tramcars and like Vehicles.

We, WILLIAM WILSON, of 30, Norfolk Street, Hyde, in the County of Chester, Pattern Maker, and THOMAS BENNETT, of 76, Grafton Street, Hyde, in the County of Chester, Pattern Maker, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in or in connection with life saving guards for tramcars and like vehicles, the object being to provide a guard of a more efficient character than those hitherto in use, and one which may be readily lowered to or raised from its operative position from the platform of the tramcar by the driver.

The invention will be fully described with reference to the accompanying drawings in which Fig. 1 shows part of the end of a tramcar fitted with our improvements, some of which are shown in section.

Fig. 2 is a plan of same whilst Figs 3 and 4 are views showing an alternative arrangement for holding the mechanism in either operative or non-operative positions.

These drawings show one way in which our invention may be carried into effect and in which *a* is the front frame of the car and *b* brackets affixed thereto, one on either side, to the lower ends of which is pivoted a guard or tray *c* consisting of a frame *d* to which is attached netting *e* of a suitable character. The back of the frame *c* is supported on a shaft e^1 passed through bearings formed in the brackets *b* whilst from this point the frame is sufficiently large and is rounded at its front edge *f*, though it may have a roller extending along it from side to side or one or more rollers placed at intervals so that if such front edge is brought into contact with the road or rails it would readily pass over any very slight obstruction. Near to the front edge, the frame *c* is provided at either side with a pin or stud *g* on which is journalled a roller or bowl *h* preferably formed with a convex surface so as to readily run either on the tram road or rails, though the rollers may be arranged to run in the grooves of the tramway rails though the former is by far the preferable method of construction. A subsidiary frame *q* is attached to the frame *c* and also carries a netting similar to that stretched on the frame *c*.

In order to raise or lower the frame *c* to the dotted position shown in Fig. 1 or to the full line position also indicated we fix on the shaft e^1 a lever *p* to the upper end of which is coupled an adjustable link *o* the forward end of which is in turn coupled to one arm of a bell crank lever *v* pivoted at v^1 to the platform above the frame *a*, the other arm of the bell crank being coupled by a link *l* to a rod or handle *m* passing upwardly through a casing or pillar *n*. The handle *m* is so arranged that it can be quickly lifted up or let down by the car driver so as to raise the guard or tray to the dotted line position or to allow it to drop down so that it may nearly touch the tram road or rails as before referred to. In order to hold the tray and operating handle *m* in the required position we provide the latter with notches m^1 and m^{11} and in connection with these we use a spring catch or knee plate s^1 pivoted at *s*, the lower arm of which is always pressed towards the notches by means of a suitable spring such as *w*. Thus when the knee plate engages with the notch m^{11} the guard or tray *c* is held down in the full line position indicated in Fig. 1. On the other hand when the guard or tray is required to be kept in the position indicated by dotted

lines the handle m is pushed downward when the spring catch s^1 engages with the notch m^1. It will thus be seen that on the knee plate being pressed forward so as to disengage its lower arm from the notch m^1 the weight of the tray c and connected parts operate to bring the tray to the lowermost position very quickly. In order to assist in raising the tray we may employ a counterbalance weight q^1 adjustably mounted on an arm q^{11} projecting from the shaft e^1.

It will be obvious that the means for holding the parts in the required positions may be varied, one such variation being indicated in Figs. 3 and 4 in which the notches m and m^{11} are placed at the opposite side of the rod or handle m and are engaged by a collar n^1 from one side of which projects a spindle n^{11} carrying at the outer end a buffer k between the rear side of which and the casing n is placed a spring w^1 which always tends to pull the collar into engagement with one or other of the notches m^1 or m^{11} as the rod m slides up and down.

From the foregoing it will be seen that the guard is very simple in construction and may be held normally in its operative position or let down to such on emergency and in any case is large enough to receive the body of a man or an inert obstruction which may be in front of the car when the latter is running. The frame c is of such a shape that when once the body gets beyond the rollers h there is no tendency for it to roll off again. Another feature of the guard is that there is a clear open space throughout the whole width of the tray.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed we declare that what we claim is:—

1. A semi-automatic life saving guard for tramway cars and like vehicles consisting of a pivoted tray provided with rollers to engage with the tramway rails or road, a shaft carrying said tray, an operating rod slidable in a casing, a system of levers and links connecting the tray with the operating rod and a spring controlled knee plate pivoted to the casing and arranged to engage with notches in said operating rod substantially as and for the purpose described.

2. The general construction, combination, and arrangement of parts forming our improved semi-automatic life saving guards for tramway cars and like vehicles substantially as described and as shown with reference to the accompanying drawings.

Dated this 16th day of July 1900.

WILLIAM H. TAYLOR,
Stephens Buildings, 62, Market Street, Manchester,
Agent for the Applicants.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1900.